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INFORMATION REPORT

REPORT

CD NO.

COUNTRY East Germany

DATE DISTR. 15 December 1952

SUBJECT Research, Development, and Production of
HF Werk (OSW), 1-5 Ostendstrasse, Berlin-Oberschoeneweide

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General

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1.

/Enclosure (A)

is an organizational chart of Werk H.F. which controls the vacuum tube production
and vacuum tube research organization at OSW and NEF.

2. Director Mueller, an SED member, is in charge of all developments and production
at OSW and NEF. He is assisted by Sales Director Rohde, an SED member, and
Political Director Frau Hoffman, also an SED member. Approximately 5600 people
are employed at OSW; the bulk of this complement is concerned with production of
vacuum tubes.

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3. The Production Section is under Dr Schiller, and is divided into various departments:

- a. The General Tube Department is concerned with the production of all receiver type and general type vacuum tubes. Some of the more common ones known to be mass produced are: 6AG 7, 6AG 7, 6H 6, 6S 5, 5Z 4, 6Z 6, 6V 6, 6SA 7 (6A 10), P50, 1Z1, AF 7, AL 4, STV 280/4, STV 100/40, and STV 150/40.

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- b. The Picture Tube Department produces nine inch picture tubes for the T2, Leningrad Television Receiver. These tubes are shipped to Sachsenwerk Radeberg, near Dresden, where they are installed in the television receivers manufactured at this plant and are then shipped to Russia. These tubes have a very short life due to poor screen material.

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- c. The Cathode Production Department is under the guidance of Rathenburg, who was one of the former OSW scientists deported to NII 160 in 1946. It is responsible for the production of all cathodes used in all tubes produced at OSW.

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Considerable difficulty with cathode materials was experienced from the end of World War II up to the present. Much trouble was experienced in obtaining the various materials.

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None of the materials came from Soviet Russia.

- d. High voltage rectifiers for x-ray equipment and unknown communication equipment are constructed in the High Voltage Department. The x-ray tubes are shipped directly to Russia. No x-ray equipment is made in this department other than the rectifiers.

- e. The Stabilizer Department produces stabilizing tubes which are imitations of the old Lorenz Stabilovolt tubes. They are of inferior quality.

- f. Wolfram Powder was obtained from an East Germany source and no shortage seemed to exist. It was sintered and drawn into fine wire in the Wire Drawing Department. No difficulties were experienced in the quality of the grids produced from this wire.

- g. It was not possible for employees of OSW to enter the Metal Ceramic Tube (Secret) Department unless they had a certain type badge and pass. This was the only department at OSW which required such documentation. Metal ceramic tubes and magnetrons were produced in this department. Approximately 100 men were employed in this area.

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there was probably no mass production.

- h. The chemical composition of cathode materials and other materials used to construct various elements of the vacuum tubes were tested in the Chemical Laboratory. Dr Richter and Dr Schwachten were in charge.

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- i. The Material Testing Department was under Messner and Grove. Messner was responsible for the mechanical testing of all materials entering OSW, while Grove was responsible for the chemical testing of these materials.

j. [redacted] 50X1-HUM

- k. The Painting Department did all spraying and painting required at OSW.

- l. The ATK (Department of Technical Control) is responsible for the technical quality control of all vacuum tubes produced at OSW. It is under the guidance of Seidel [redacted] 50X1-HUM
[redacted] this department receives Soviet specifications 50X1-HUM
from Moscow and makes certain that tubes produced at OSW are manufactured according to these specifications. [redacted] 50X1-HUM

there are four ATK men assigned to the Picture Tube Development Department of OSW. [redacted] these men were not under Mueller. 50X1-HUM

4. The Research and Development Section of OSW is under Dr Ullrich. This section, made up of the following department and laboratories, is concerned only with research, development and laboratory production:

- a. The Picture Tube Department is headed by Werner Kluge [redacted]. 50X1-HUM
Under this department are the following development laboratories:

- (1) The Picture Tube Laboratory is under Wenderoth, who lives in East Berlin. This laboratory is concerned with the development of 9" and 12" round Kinescopes and 12" rectangular Kinescopes. These Kinescopes were originally developed in Russia, but are continually being improved upon at OSW. The Beldwandler (infra-red viewer) is also produced in this laboratory in very small numbers. Only 8 to 10 of these tubes have been constructed as of to date. Approximately one projection Kinescope is manufactured per month in this laboratory. Twenty Super Iconoscopes have been manufactured by Wenderoth, but none of them have ever worked due to poor vacuum. Both one and two system oscillograph tubes are manufactured here in very small quantities.

- (2) The Test Equipment Laboratory [redacted] 50X1-HUM

[redacted]
there are no scientists presently working in this laboratory. All work has come to a standstill. This laboratory made the following equipment:

- (a) Kinescope Test Stands were produced in 1951 and 1952. Six of these were for the OSW Kinescope Production Department and two were for the ATK Department.
- (b) One test set for the 1Z 1 rectifier. This set was designed to produce the same type impulses as does a TV set. It was to be sent to the Rectifier Research Department headed by Dr Ladurner. Ten more of these sets are to be made for OSW; however, it will be impossible to do so until more personnel is obtained.

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(c)

- (d) A test instrument for testing the life time of Kinescope tubes is presently 50% completed. Prior to this time, T2 television receivers from Sachsenwerk Radeberg have been used to test the life of the tubes. This has been a very long drawn-out type of testing.
- (e) A monoscope is approximately 50% ready; however, there is no one there who can complete it. This scope was ordered by the television laboratory headed by Patkowschek. Two of these tubes were obtained from the Heinrich Hertz Institute. However, an additional tube was required.
- (f) Three test sets for testing the glow time of screen materials were in the process of being constructed. One of these sets was to have the time interval of 10^{-6} to 10^{-5} seconds. This set was due in December 1952. The second set was to have a range of 10^{-5} to 10^{-3} and was due in 1953. The third set was to have a range of 10^{-3} to 10^{-1} and was due in 1953. None of these sets can be completed due to the lack of personnel. No record of the work done to date is presently on hand in the laboratory.
- (g) The specifications and order had been received for the test set designed to test two gun oscillograph tubes; however, no work had been started on this project.

(3)

The Screen Material Laboratory, under the direction of Frau Mueller was responsible for the research of various cathode-ray tube screen materials. If the screening materials

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were not available they were obtained from Frau Mueller. Trouble was always being experienced with Frau Mueller's screen materials as indicated by the fact that the electron beam never appeared as a white indication but frequently as a blue or green one. There was also a shortage of screen materials as the following story indicates.

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- (4) The Electron-Microscope Laboratory has produced approximately 10 Electron-Microscopes since 1946. Most of these microscopes have gone to the USSR; however, two are believed to have stayed in East Germany. One of these two is on exhibition at the 1952 Leipzig Fair. The former director of this laboratory recently left due to a violent argument with Director Mueller. It is believed that he is presently employed as a consultant engineer in a new semi-conductor laboratory located in Berlin - Buch. The laboratory is now under the direction of Jung who is pro-Russian.
- b. The Television Department is under Dipl Ing Spiegel. It includes the following laboratories:
- (1) The Television laboratory under the guidance of Reikowschak. This laboratory is principally concerned with the development of a new five channel television receiver, a one band UKW, a one medium wave band and a one long wave band console. It has developed and produced four ICC Abtaster /scanners/, four DIA Abtaster, four film Abtaster, and four synchronizing generators. Two of each of these instruments have been sent to the USSR along with the corresponding technical schematics. One of each of these instruments has been sent to the Television Center in Berlin-Adlershof; and the fourth of these instruments is presently on exhibition at the Leipzig Fair.
 - (2) The Transmitter Laboratory is under Dr Scholz. This laboratory made the new television transmitter for the East Berlin television stations located in the Neustadthaus near Alexander-Platz, Berlin. This transmitter is presently working; however, only on a test transmission basis. It is connected with the television studio by means of a decimeter relay link which was manufactured at NEF. This relay link is the cause of many troubles. This laboratory also develops and constructs two different types of ultra short wave transmitter-receivers for the East Zone Police. This equipment operates on the normal police wave length of approximately 100 megacycles. Antennas for ultra short wave and television transmitters are also manufactured in this laboratory by Dipl Ing Baurer.
 - (3) Approximately 10 engineers work in the Oscilloscope Laboratory under the direction of Dr Bahn. This laboratory develops and constructs the following equipment:
 - (a) A one gun oscillograph,
 - (b) A new type oscillograph that has its time base triggered by an impulse. This scope is capable of displaying a maximum frequency of 10 megacycles at a maximum rate of 200,000 impulses per second.

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- (c) The same type oscillograph as above, only with a broad band amplifier capable of handling a maximum frequency of 25 megacycles.
 - (d) The same type oscillograph as described in sub-paragraph (c), except that it uses a two system CRT.
 - (e) A stroboscope with an XENON flash lamp.
 - (f) An impulse generator capable of producing impulses from 10 to 400 pulses per second. Only a few of the above pieces of equipment have been manufactured. Most of them have gone to the USSR along with the allied technical data and schematics; however, one of each model of the above equipment is being displayed at the Leipzig Fair.
- c. The Quartz Laboratory is under the direction of Dr Bauer and is presently producing 40 to 50 crystals per month. The maximum frequency of these crystals is 30 megacycles. Most of the crystals are delivered to the NEF where they are incorporated in the carrier frequency decimeter equipment made by that firm; however, a few are delivered to Sachsenwerk Radeberg, East Zone Police, the Ministerium fuer Post und Fernmeldewesen and to the television laboratory in East Berlin. This laboratory also produces one quarter watt to 20 watt resistors for OSW and NEF. These resistors are made in this laboratory only because it is impossible to buy high quality resistors in the East Zone of Germany. In 1945 the Soviets removed all of the quartz cutting equipment and raw quartz. Even today this removal of equipment curtails the production of quartz crystals. [redacted] has a universal wave meter [redacted] of Munich.
- d. The Vacuum Tube Research Laboratory headed by Dr Ladurner produces six or seven different types of miniature tubes. In addition development of all types of vacuum tubes produced at OSW is carried on. No sub-miniature vacuum tubes are known to be produced here.
- e. All mechanical devices required by the scientists assigned to the OSW Research and Development Laboratories are made in one of these two machine shops under the direction of mechanics Schuler (sic) and Fahrmukatz (sic).
- f. The Construction Bureau is under the direction of Goymandt (sic) who is responsible for advising the OSW Research Engineers as to whether or not OSW has the facilities for mass producing various types of equipment developed by the engineers. Blueprints of all developed equipment are also prepared in this office.

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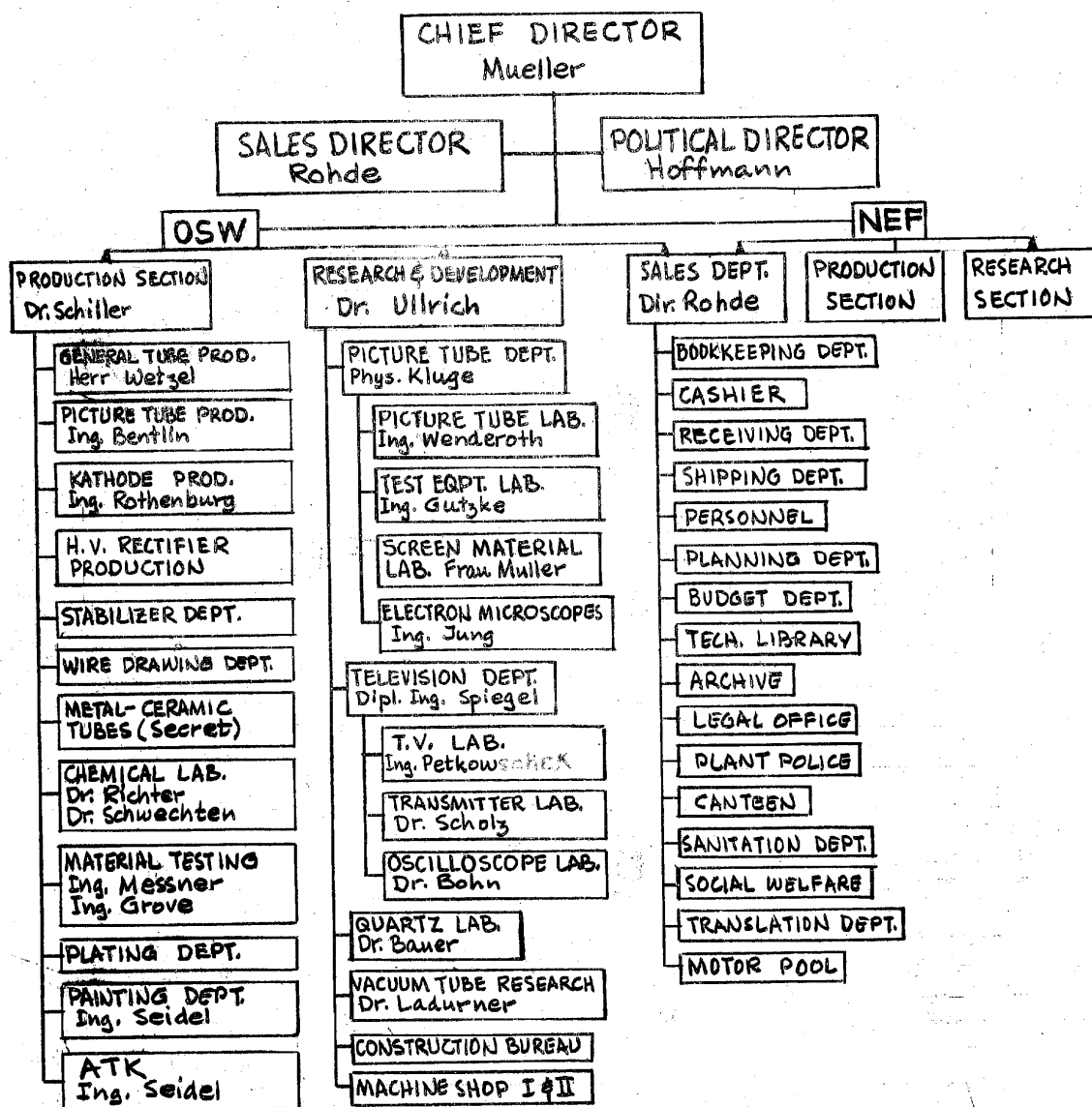
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NOTE: NEF = Develops and manufactures carrier frequency equipment, and high frequency transmitting equipment.
Approx. 1/2 of the personnel are concerned with the carrier equipment.

ORGANIZATION CHARTWERK H.F.

Enclosure (A)

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